Index 1972

SUBJECT

Absorption spectroscopy, 94
Acetanilide, nitration, 111, 153
Acidity, electron repulsion theory and, 187
Acids, electron repulsion theory and, 12, 72, 187
Africa, chemistry in, 46
Afrigas, 153
Analgesics, non-addictive, 230
Analysis, in archaeology, 54
Archaeology
  chemical analysis in, 54
  geophysical prospecting, 98
  preservation techniques, 131
  radiocarbon dating, 217
  thermoluminescent dating, 9
Aromatic compounds, transition-metal complexes, 134
Assessment in chemistry in Europe, 225
Australia, school–university transition, 100

Bases, electron repulsion theory and, 12, 72
Book reviews
  analysis, 110, 200, 238
  atomic theory, 202
  audiovisual aids 31, 197
  biochemistry, 29, 197, 198
  chemical engineering, 110
  chromatography, 31, 151
  coal, 198
  curricula, 151
  definitions, 75
  drugs, 152
  education, 31
  electrochemistry, 198
  enzymes, 110
  examinations, 31, 198, 236
  experiments, 75, 201, 238
  food, 110, 152
  gas, 52, 203
  general chemistry, 75, 109, 152, 198, 201, 236, 238
  history of science, 30, 202
  industry 32, 75, 198
  inorganic chemistry, 201, 202
  iron and steel, 75
  isomerism, 236
  microbiology of food, 32
  models, 109, 152
  multiple choice questions, 200, 201
  molecular weights, 236
  nomenclature, 202
  nuclear science, 30
  objective questions, 31, 236
  organic chemistry, 29, 30, 75, 109, 152, 200, 203
  pharmaceuticals, 201
  physical chemistry, 30, 109
  plastics, 201, 203
  polymer chemistry, 152
  practical chemistry, 30, 238
  questions, 200, 201, 202
  rubber, 201
  science magic, 198
  silicon chemistry, 88
  SI units, 197
  spectroscopy, 31, 75, 197, 236
  technology, 32
  textiles, 201
  thermodynamics, 110, 200
  water, 32
Books, publishers and, 192
Brillouin scattering, 93
British Council, 88

Carbonates, Group II, decomposition, thermodynamics, 226
Careers, prospects in chemistry, 66
Certificate of Secondary Education, 129
Chemical reactions, enthalpy changes in, 178
Chemistry sets, safety, 7
Chemistry Teachers' Centres, 16, 72
Chromatography of fats and oils, 182
Copper, determination, 58
Cosmetics, manufacture, 233
Cymantrene, 136

Dating
  by thermoluminescence, 9
  radiocarbon, 217
Design of laboratories, 142, 190
Dielectric constant, of solvents, 220
Differential thermal analysis in food studies, 104
Dipole moments,
  SI and, 138
  of solvents, 220
Drug addiction, 230

Ecology summer course, 216
Economics of chemical manufacture, 102, 148
Education research symposium, 216
Electron repulsion theory
  acids and, 187
  acids and bases and, 12, 72
Emission spectroscopy, 94
Emulsions, manufacture, 233
Enthalpy, changes in chemical reactions, 178
Environment, competitions, 6
Ethyl benzoylacetate, hydrolysis, 14
Europe
  assessment in chemistry in, 225
  teaching methods and materials, 56
Examinations
  A-level grading, 244
  CSE, 129
  in Europe, assessment, 225
  new common system, plans, 8
  results and IQ, 111
  in the US, 17

Fats, chromatography, 182
Ferrocene, 134
Film reviews
  Air - my enemy, 28
  astronomy, 150
  bacteria, 151
  botany, 150
  Carbon: its forms and uses, 29
  chemical engineering, 151
  chromatography, 29
  Circle of magnetism, 28
  Equilibrium - the limit of disorder, 28
  Fluid flow, 28
  learning, 150
  oceanography, 150
  Oil, 28
  oilseeds, 151
  pollution, 150
  Research Councils, 150
Film strips
  Discovery and refining of oil, 29
  plastics, 151
  structure, 197
  Water pollution, 29
Food, differential thermal analysis of, 104

Geophysics in archaeological prospecting, 98
Girls, aversion to science, 47
Glycerol, manufacture, 26

Halogens, reactivity, thermodynamics, 227
Heat of reaction, 180
Hydrogen-bonding, in solvents, 220
Hydrolysis of ethyl benzoylacetate, 14
Hygiene in cosmetics manufacture, 235
Hypofluorous acid, 140

Industry,
  symposium on, 60
  Ynysawdre chemical company, 218
Intelligence quotient, examination results and, 111
Interdisciplinary studies, 214
Internavex 72, 194
Iodine, vapour, visible spectroscopy, 19
Ionic energies, 226

James Committee of Inquiry into Teacher Education and Training, 49

β-Keto esters, hydrolysis, 14

Laboratories, design, 142, 190
Lard, differential thermal analysis, 105
Lasers, 92
London educational review, 47

Margarine, differential thermal analysis, 105
Markov chains, chemical processes and, 222
Mass spectroscopy, 94
Mathematics, first-order processes and, 222
Matrices, chemical processes and, 222
Methadone, derivatives, 231
Methanol, triphenyl-, synthesis, 35
Models of zeolites, 146
Molecular sieves, models and, 146
Morphine, derivatives, 230

Nitration of acetanilide, 111, 153
Nuffield, 172, 177
  A-level, 174, 176
  universities and, 171

Oils, chromatography, 182
Organic chemistry, introduction to, 68
Organic compounds, solubility, 220

Pethidine, derivatives, 231
Phenylhydrazine, 144
Pollution, 87
  of rivers in Scotland, 7
Polyethylene, production economics, 102, 148
Pottery, dating by thermoluminescence, 9
Preservation in archaeology, 131
Programmed learning, 90
Projects, inorganic/organic, 58
Prospecting, geophysical, in archaeology, 98
Publishing textbooks, 192

Radiocarbon dating, 217
Raman spectroscopy, 93
Rayleigh light scattering, 93
Reaction kinetics in reactor design, 62
Reactivity of halogens, 227
Reactors, reaction kinetics in design of, 62
Reduction with Afrigas, 153
Rivers, pollution in Scotland, 7
Royal Holloway College, 23

Safety
  chemistry sets, 7
  in cosmetics, 235
Salts, stability, thermodynamics, 227
Sausages, differential thermal analysis, 106
School–university transition in Australia, 100
Science Education Centre, Chelsea, laboratory design, 190
Scotland
  inservice courses in, 89
  river pollution in, 7

continued on p 246

Index 1972

(Continued from p 245)

SI units, dipole moments and, 138
Solubility of organic compounds 220
Solutes, classification, 220
Solvents, organic compound solubility in, 220
Spectroscopy
  homodyne, 93
  iodine vapour, 19
  self-beating, 93
Stability of salts, thermodynamics, 227
Surveying, geophysical, in archaeology, 98

Teacher training in Scotland, 89
Teaching in Europe, methods and materials, 56
Thermodynamics, 178
  ionic energies and, 226
Thermoluminescence, dating by, 9
Toothpaste manufacture, 234
Transition metals, aromatic complexes, 134
Transition states in reversible first-order processes, 222

Undercurrents, 46
United States
  chemical education in, 17
Universities
  Nuffield and, 171
  school-, transition in Australia, 100

Water, organic compounds solubility in, 220

Ynysawdre chemical company, 218

Zeolites, models, 146
Zone melting, 95

AUTHOR

Bailey, D., 230
Bailey, R., 176
Barker, H., 217
Blackadder, D. A., 62
Bradley, J. D., 68
Bridgwater, J., 62
Bryant, K. H. J., 100
Butler, R. N., 115

Chipchase, E., 156
Clother, H., 53
Curry, K. V., 233

Davies, R., 92
Daniels, D. J., 214

Finch, A., 22
Fleming, S. J., 9

Garforth, F. M., 16
George, W. O., 19
Gerrans, G. C., 68
Greenwood, N. N., 36
Greenwood, R. F., 104

Haddad, Y. M. Y., 14
Hamblin, L. K., 171
Hanson, R. W., 58
Hart-Davis, A., 192
Hawkins, M. D., 95
Hoare, D. E., 100
Holliday, A. K., 49
Holloway, B. J., 66
Hoppé, J. I., 138
Hughes, W. J., 49

James, K. C., 220
Jenkins, E. W., 52
Jones, A. G., 14
Jones, H. M., 144
Jubb, A. H., 26, 102, 148

Little, A. N., 76
Lloyd, W. H., 142, 190
Luder, W. F., 12, 187
Lumb, N., 174

MacCallum, J. R., 89
Margerison, D., 178
Marr, G., 134
Mascord, D., 60
McCarthy, M. C., 26, 102, 148
McKerrell, H., 54
Miller, P. J., 222
Morris, M., 244

Naughton, E. T., 218
Nedderman, R. M., 62

Partington, F. R., 89
Peet, J. H. J., 140

Reynolds, C., 90
Robins, A. W., 104
Rockett, B. W., 134

Shayer, M., 50
Simmons, G. A. E., 58
Smith, S. G., 172
Stern, J. P., 51
Stone, T. J., 204

Thompson, J. J., 56, 225
Tite, M. S., 98

Vaughan-Williams, H. R., 182
Vincent, A., 226

Walton, A., 146
Wells, C. H. J., 19
Werner, A. E. A., 131

Yeoman, G. D., 129
Young, J. A., 17

Zuffanti, S., 12, 187

OXFORD BOOKS FOR STUDENTS

Oxford Chemistry Series

General Editors: P. W. ATKINS, J. S. E. HOLKER, A. K. HOLLIDAY

The aim of this series of short textbooks is to present a wide variety of topics in pure and applied chemistry for both specialist and non-specialist courses. The series will cover the whole range of undergraduate work, and separate treatment of the same topic will, where appropriate, be provided at various levels. Many of the topics will cut across the conventional divisions of the subject. The series as a whole will be closely integrated and a standard notation will be used throughout.

1. Magnetic Resonance

K. A. MCLAUCHLAN, *Fellow of Hertford College, Oxford*

This book introduces the principles and major applications of both n.m.r. and e.s.r., and describes their inter-relations. The basic phenomena of resonance and relaxation are explained for both techniques simultaneously. The book is within the grasp of anyone familiar with A-level physics. Paper covers £1.20

2. Ions in Solution

An Introduction to Electrochemistry

J. ROBBINS, *Lecturer, Department of Chemistry and Metallurgy, Lanchester Polytechnic*

This book constitutes a basic course in electrochemistry from which a specialist treatment can readily follow. Theoretical aspects are treated in sufficient detail to be clear to the student who is less well equipped mathematically, but practical considerations are given due weight. 30 text figures paper covers £1.50

3. The Periodic Table of the Elements

R. J. PUDDEPHATT, *Lecturer in Inorganic Chemistry, University of Liverpool*

The early part of this book shows how the periodic table is constructed on the basis of our knowledge of the atomic structures of the elements. The remaining chapters describe the properties of the chemical elements and their compounds. 30 text figures paper covers £1

4. Mechanism

An Introduction to the Study of Organic Reactions

R. A. JACKSON, *Lecturer in Organic Chemistry, University of Sussex*

This book presents a new approach to this fundamental problem. The author shows how ideas and methods are combined to yield information about the pathways of reactions. He describes the methods of product, stereochemical and kinetic analysis, the detection of intermediates, and the effects of solvent and substituents. Many text figures: paper covers £1.10

OXFORD UNIVERSITY PRESS

For further information encircle EC 10 on Page 247